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REFORESTATION

for
FORESTRY AND TREE PLANTING
PROGRAMS



for use of



FOUR-H CLUB, BOY SCOUT, SCHOOL
AND ARBOR DAY MEETINGS,
AND OTHER ASSEMBLIES

"It is clear that economic foresight and immediate employment go hand in hand in the call for reforestation..."

Franklin D. Roosevelt



(It is not suggested that the following program be used in its entirety at any one meeting or assembly. Enough material is included in it to permit selection, or to provide two or more programs for the individual school or club. Additional copies of this folder may be obtained in limited quantities from the U.S. Forest Service, Washington, D. C.)

1. Song, "America the Beautiful."

2. Reading

FOREST CONSERVATION

A forest is more than a collection of trees. It is not merely a wood storehouse. It is a wood factory, a water reservoir, a fish hatchery, a game refuge, and a wild-flower preserve. All these in one the forest truly is.

We are the biggest wood users on the face of the earth. The people of the United States actually use two-fifths of all the wood consumed in the world. I see no chance of an early abandonment of the wood-using habit. The way out of this situation is clear. We have been - and I hope we may continue to be - a nation of wood users, but to enjoy this privilege and the prosperity that goes with it we must become a nation of wood growers.

The biggest mistake made in the lumbering of the past was that no provisions were made for forest renewal. As a result we have vast stretches of idle forest land. It brings no good to anyone. It pays little or no taxes, keeps willing hands out of work, builds no roads, supports no industries, kills railroads, depopulates towns, creates a migratory population, all of which work against a good and stable citizenship. Idle forest land serves no one well.

We must do more than accept conservation. We must preach it and, what is most important of all, we must practice it.

If we act the part of good citizens we will bestow upon our children a wisely conserved heritage of natural resources. By doing this we will rear to ourselves a monument of noble vision and unselfish enterprise. Such a conservation policy will make this country a better land in which our boys and girls, and their boys and girls, can become the kind of men and women we want them to be. ---- Gifford Pinchot

(over)

3. Recitation

TREES OF THE FRAGRANT FOREST

(For six children. As they take their places upon the stage,
those in seats recite the first stanza.)

Trees of the fragrant forest,
With leaves of green unfurled,
Through summer's heat, through winter's cold,
What do you do for our world?

First:

Our green leaves catch the raindrops
That fall with soothing sound,
Then drop them slowly, slowly down;
'Tis better for the ground.

Second:

When, rushing down the hillside,
A mighty freshet foams,
Our giant trunks and spreading roots
Defend your happy homes.

Third:

From burning heat in summer
We offer cool retreat,
Protect the land in winter's storm
From cold, and wind, and sleet.

Fourth:

Our falling leaves in autumn,
By breezes turned and tossed,
Will make a deep sponge-carpet warm,
Which saves the ground from frost.

Fifth:

We give you pulp for paper,
Our fuel gives you heat;
We furnish lumber for your homes,
And nuts and fruit to eat.

Sixth:

With strong and graceful outline,
With branches green and bare,
We fill the land through all the year
With beauty everywhere.

All:

So, listen! From the forest
Each one a message sends
To children on this Arbor Day:
"We trees are your best friends!"

---Primary Education

NOTE. - "April" may be substituted for "Arbor" in the last stanza if the recitation is to be given on some other day than Arbor Day.

4. Reading.

HOW FORESTS PROTECT STREAMS *

By Overton Price

Forests are to streams what the storage battery is to the electric wire - the source of useful power, and energy, and current in reserve. Take away the battery, and the wire is dead; injure the battery, and the current loses force and permanence.

When the rain falls on a forest, it spatters against the roof of leaves, and the heavy, hard-pounding raindrops are broken up into a fine, soft mist. Anyone who has stood under a tree during a shower doesn't need to be told that. When this mist reaches the ground under the trees, it falls on a soft bed of dead leaves. This bed has a wonderful power to soak up and hold water; and so the rain soaks slowly into the leaf litter, much as water does into a cloth, until it reaches the soil beneath. This is called the mineral soil, because it was made by the gradual wearing away of rocks of many kinds, which took more years than we can count.

The water slowly works on down through this mineral soil, following cracks and channels already worn by the action of water for thousands of years; continually starting new channels of its own, joining with other rivulets, and so forming streams and even rivers underground. It is these underground waters, finding their way to the surface on the mountain sides and in the valleys, which make springs.

When the forests are gone all this is changed. The sun beats down on the leaf litter, dries it up, and the wind scatters it until only the dense mineral soil is left, which bakes with the heat until it is sometimes nearly as hard as brick. When the rain falls on it, very little soaks in. The rest runs off down hill into the streams, carrying a part of the soil with it. * * * Over there is a bare hillside with great raw gashes and gullies worn in it by the countless little torrents of muddy water which have dashed down it after each hard rain ever since the forest was destroyed.

A little farther down the river we see a tangled mass which evidently was once a large building on the river's bank. But the river rose in flood a few years ago and swept this big mill away like a match box, to pile it up, a useless wreck of broken timbers, a little farther down.

Below where the mill was we see the ruin of a bridge. The same flood which took the mill swept out the bridge as well.

A little farther, just where the valley broadens and the river banks are low, we pass for miles through a sandy, barren stretch which must once have been farmed, because we see fences through it here and there, and also an occasional house.

But there are no cattle or crops in the fields. When the river was last in flood it overflowed its banks and spread a film of sand over this rich farm land, or washed its surface soil away and gullied it beyond recovery.

The ruin of the mill, the bridge, and the rich farms is the revenge taken by the river for what men did to the forests which used to feed it.

5. Recitation.

SHADE

By Theodosia Garrison

The kindest thing God ever made,
His hand of very healing laid
Upon a fevered world, is shade.

His glorious company of trees,
Throw out their mantles, and on these
The dust-stained wanderer finds ease.

Green temples, closed against the beat
Of noontime's blinding glare and heat,
Open to any pilgrim's feet.

The white road blisters in the sun;
Now, half the weary journey done,
Enter and rest, O weary one!

And feel the dew of dawn still wet
Beneath thy feet, and so forget
The burning highway's ache and fret.

This is God's hospitality,
And whoso rests beneath a tree
Hath cause to thank Him gratefully.

6. Song: "The Monarch of the Woods," or the following:

LOVELY MAY

(To be sung to the tune of "Lightly Row")

Lovely May, lovely May,
Decks the world with blossoms gay.
"Come ye all, come ye all,"
Thus the flowers call.
Sparkles now the sunny dale,
Fragrant is the flowery vale;
Song of bird, song of bird,
In the grove is heard.

Lightly pass, lightly pass,
Thro' the nodding meadow grass,
Woodlands bright, woodlands bright,
Wake from winter's night.
Where the silver brooklet flows,
Rippling softly as it goes,
Will we rest, will we rest,
In green mossy nest.

7. Recitation.

APRIL BUDS

A.E.A.

(For eight children with budded boughs, if convenient)

All:

Sing a song of April buds--buds and buds to spare--
Summer shut up in them--buds are everywhere.

First:

Buds gleam upon the maple
Like fiery rubies now.

Second:

The elm tree loads her precious gems
On every twig and bough.

Third:

There's gold dust on the willows
A fairy might have shed.

Fourth:

The slender birch wears jewels bright
Upon her pretty head.

All:

Sing a song of April buds, etc.

Fifth:

Like tall and glorious ladies
The poplars wear their gems.

Sixth:

A thousand gleaming emeralds
Show on the lilac stems.

Seventh:

In misty gray and silver
Horse chestnut buds uncurl.

Eighth:

The alder by the river
Is decked with many a pearl.

All:

Sing a song of April buds, etc.

(From "Arbor Day Selections," by
Katherine L. Craig)

8. Recitation

THE STORY OF A LEAF

By Rebecca D. Rickoff

I am only a leaf. My home is one of the great trees that grow near the schoolhouse. All winter I was wrapped up in a tiny warm blanket, tucked in a little brown cradle, and rocked by the winds as they blew. Do you not believe it? What I say is true.

Next fall just break off a branch of a tree, and see whether you can not find a leaf bud on it. It will look like a little brown knot.

Break it open, and inside you will see some soft, white down; that is the blanket. The brown shell that you break is the cradle.

Well, as I was telling you, I was rocked all winter in my cradle on the branch. When the warm days came, and the soft rains fell, then I grew very fast indeed. I soon pushed myself out of my cradle, dropped my blanket, and showed my pretty green dress to all who came by.

Oh, how glad every one was to see me! And here I am, so happy with my little brothers and sisters about me! Every morning the birds come and sing to us; the great sun shines upon us, and the winds fan us.

We dance with the winds, we smile back at the bright sun, and make a pleasant shade for the dear birds. Every day, happy, laughing school children pass under our tree.

We are always glad to see you, boys and girls -- glad to see your bright eyes, and hear you say, "How beautiful the leaves are!"

9. Recitation

I PLANTED LITTLE TREES TODAY

By James B. Carrington

Around the woody grass-grown fields,
Mid golden-rod and fragrant bay,
The wildings that the poor soil yields,
I planted little trees today.

In hollows where pipsissewa
Sends up its sweet and waxy bloom,
Where little nuthatch calls, ha, ha,
And tiny owls wail at the moon,

With love and pride I planted there;
Though well I know I'll not be here,
When they have grown to mighty trees,
Nor hear their music through the year.

Yet, may be, in the days to come,
A memory shaft they'll build for me,
And through their groves there may walk some
With praise and thanks for every tree!

10. Reading

THE ORIGIN OF ARBOR DAY

Tree festivals are probably as old as civilization. Sacred trees and groves, planted avenues and roadsides, shaded academic walks, and memorial trees were common long before America was discovered. Arbor Day, as such, however, is purely American in origin and grew out of conditions peculiar to the Great Plains of the West, a country practically treeless over much of its area but supporting a flourishing agriculture and with a soil and climate well able to nourish tree growth.

Arbor Day originated and was first observed in Nebraska in 1872. The plan was conceived and the name "Arbor Day" proposed by J. Sterling Morton, then a member of the State Board of Agriculture and later United States Secretary of Agriculture. At a meeting of the State Board of Agriculture of Nebraska, held at Lincoln, January 4, 1872, he introduced a resolution "that Wednesday, the 10th day of April, 1872, be * * * especially set apart and consecrated to tree planting in the State of Nebraska and the State board of agriculture hereby name it Arbor Day." The resolution was adopted, and prizes were offered to the county agricultural society and to the individual who should plant the greatest number of trees. Wide publicity was given to the plan, and over a million trees were planted in Nebraska on the first Arbor Day.

Kansas and Tennessee followed the lead of Nebraska in celebrating Arbor Day in 1875, and the next year Minnesota fell into line. In Kansas the same comparatively treeless conditions as in Nebraska made the plan of immediate economic importance. In Minnesota the white pine forests were being destroyed with alarming rapidity, and no provision was being made for replacing them.

For some years after 1876 there was a check in the spread of the Arbor Day idea and it was not until 1882 that two more States began to celebrate the Day -- North Dakota and Ohio. The first celebration in Ohio was held during the sessions of a national forestry convention at Cincinnati. On this occasion two new elements were introduced into the Arbor Day plan -- the day was made a school festival and the practice of planting memorial trees and groves was inaugurated. These

new developments were largely responsible for the extension of Arbor Day over the rest of the United States and beyond. Tree planting by school children became a festival combining pleasure, utility, and instruction; and one of the greatest benefits of the observance of Arbor Day has been its effects in impressing upon the minds of young people the value of trees and the necessity of conserving all the natural resources of the country.

As a school festival the observance of Arbor Day has spread not only throughout the whole United States but far beyond its borders. In 1887 the educational department of Ontario set aside the first Friday in May as a tree and flower planting day. In 1895 the plan was adopted officially in Spain. It reached Hawaii in 1905, and is now in vogue in all the dependencies of the United States and in Great Britain, Canada, Australia, the English West Indies, South Africa, New Zealand, France, Norway, Russia, Japan and China.

11. Song

SING WOODLAND

C. E. RANDALL

ALLEGRETTO



Music by George E. Heisley

My father, he left me three acres of land,
Sing woodland, sing woodland,
My father, he left me three acres of land,
Sing holly and pine in the woodland.

I planted a piece to potatoes and corn,
Sing woodland, sing woodland,
But all that came up was rough bramble and thorn,
Sing holly and pine in the woodland.

The land was so rocky it couldn't be ploughed,
Sing woodland, sing woodland,
But nature the land with good trees had endowed.
Sing holly and pine in the woodland.

I'd better let little trees grow then, said I,
Sing woodland, sing woodland,
And they'll be worth money to me ere I die,
Sing holly and pine in the woodland.

I kept away fire, fought bugs and disease,
Sing woodland, sing woodland,
and now, as you see, I am proud of my trees,
Sing holly and pine in the woodland.

12. Recitation.

PLANT A TREE
By Lucy Larcom

He who plants a tree
Plants a hope.
Rootlets up through fibers blindly grope;
Leaves unfold into horizons free.
So man's life must climb
From the clods of time
Unto heavens sublime.
Canst thou prophesy, thou little tree,
What the glory of thy boughs shall be?

He who plants a tree
Plants a joy;
Plants a comfort that will never cloy:
Every day a fresh reality,
Beautiful and strong,
To whose shelter throng
Creatures blithe with song.
If thou couldst but know, thou happy tree,
Of the bliss that shall inhabit thee!

He who plants a tree--
He plants peace,
Under its green curtains jargons cease.
Leaf and zephyr murmur soothingly;
Shadows soft with sleep
Down tired eyelids creep,
Balm of slumber deep.
Never hast thou dreamed, thou blessed tree,
Of the benediction thou shalt be.

He who plants a tree--
He plants youth;
Vigor won for centuries in sooth;
Life of time, that hints eternity!
Boughs their strength uprear;
New shoots, every year,
On old growths appear;
Thou shalt teach the ages, sturdy tree,
Youth of soul is immortality.

He who plants a tree--
He plants love,
Tents of coolness spreading out above
Wayfarers he may not live to see.
Gifts that grow are best;
Hands that bless are blest;
Plant! life does the rest!
Heaven and earth help him who plants a tree,
And his work its own reward shall be.

13. Song.

A HYMN FOR ARBOR DAY

By Henry Hanby Hay

God save this tree we plant;
And to all nature grant
 Sunshine and rain.
Let not its branches fade,
Save it from axe and spade,
Save it for joyful shade,
 Guarding the plain.

When it is ripe to fall,
Neighbored by trees as tall,
 Shape it for good.
Shape it to bench and stool,
Shape it for home and school,
Shape it to square and rule,
 God bless the wood.

14. Reading.

THE FOREST AS A WATER HOLDER AND SOIL BINDER

The forest is the best of all natural water holders. Its thick, soft mat of fallen leaves, needles, twigs, cones, seeds, and decaying wood absorbs much of the normal rainfall. Acting as a sponge or wick, this mat carries water down into the vegetable mould or humus and thence into the mineral soil. There it joins the great body of underground water that may seep slowly for months before it emerges in some distant spring or rivulet. By slowing down the run-off, and by taking large quantities of water underground and delaying its passage to the streams, the forest reduces flood heights and prolongs the flow of streams. Forests mean, then, less fluctuation of water in the streams, slower run-off, and better navigation.

Snow in the forest melts later and much more slowly than snow in the open, so that its burden is added to the streams after snow water from the open has already passed off. This delay, though it may prolong high water, makes it less severe. The forest is warmer in winter than open country, and its soil may remain unfrozen or may freeze only slightly, thus being able to absorb the water from melting snow. In the open the soil is frozen hard and deep; and the snow, melted by the first warm rains, pours torrents into the streams.

The same things that make the forest a good water holder make it a good soil binder. And this soil binding is extremely important not only in flood control but in the conservation of our soil wealth. A good dense forest keeps the soil in place instead of loosing it into the rivers. The fibrous roots bind the soil together. The thick mat of leaves and humus keeps the

water from cutting into the soil. In a well-kept forest the streams usually run clear even after a heavy rain.

The destruction of the forest exposes the soil, which permits rain water to run off rapidly. The cutting power of water increases even faster than its speed; and the bare soil, no longer protected by leaf litter, is rapidly washed away. Millions of tons of our richest topsoils are yearly washed into the streams. They are irrecoverably lost to our farm and forest wealth and are adding enormously to the problems of navigation and flood control. -- Ward Shepard.

15. Recitation.

REQUIEM

By Irene Welch Grissom

The big pine trees, that proudly rise
Tall tier on tier against the skies,
Must die--and soon--dark smoke clouds spill
The burning brands across the hill.

Long centuries, benign, serene,
They've clothed the land in living green;
A forest of majestic sweep,
With hidden valleys, cool and deep.

Where wild things came, year after year,
To rear their young, free from all fear,
And winter snows and summer rains
Were held in store for thirsty plains.

How desolate the land will be!
How sad the blackened stumps to see!
For many men shall come and go
Ere once again the big pines grow.

16. Recitation.

FIRE

We all need fire. We all use fire. The world of to-day does its business, enjoys its pleasures, and lives its life with the aid of instruments fashioned by fire. There is fire in every home, in every factory, in every locomotive and motor car. Man takes fire with him everywhere--on the land, in the air, and under the sea. And the Lord sends fire in crashing thunderbolts from the heavens.

Fire is everywhere, and ever unsatisfied, ever seeking new things to devour for service or for harm, it cares not which.

And spread out on the hillsides and over the sandy plains lie miles on miles of the fuel it seeks--forests of pine and spruce and hardwood, beautiful to see, useful to use, pleasant to visit. From thousands of vantage points fire seeks to escape from its labor of service and destroy this beauty, this use, and this pleasantness. Ninety thousand times last year it broke its bounds and got loose in the forest; ninety thousand times it turned from serving man to killing trees; ninety thousand times it struck a blow at all of us.

A friend who strikes so often and so hard, who leaves us with injuries so sore, needs to be watched and feared. No matter how we may rejoice at times in his presence and the work he does, he needs to be watched and feared.

We all use fire. We all need fire. But we all need to watch and fear fire--fire in the home, fire in the factory, fire in the forest. -- L. C. Everard.

17. Reading or Talk.

CAMP FIRES

"Nine out of ten campers build fires which are far too large. The average camper becomes very ambitious as soon as he has a fire well started. He wants all outdoors to know about it, hankers for a blaze that is a regular hip-hip-hurrah Fourth-of-July celebration."

Many years ago, T. J. Kirkpatrick related an incident bearing upon this subject which has become something of a classic among outdoors people. He told of camping with an Indian guide when the Indian, while cooking supper over a fire no bigger than a hat, turned and said:

"White man make heap big fire--stand way off. Indian make little fire--sit down side him."

Observe at all times the utmost caution as to where and how you build your camp fire, especially so when there is a sharp wind blowing. Build it in a trench or depression at such times so that sparks will neither head for one's tent nor scatter broadcast. Terrible forest holocausts have resulted from stray sparks settling upon a dry forest floor. Indeed, during a very dry spell, the forest is about as inflammable as the waste paper basket beside your desk at home. Even the dropping of a lighted match, a cigarette, pipe ashes, or an unextinguished cigar may be the means of starting a devastating forest fire.

The fact is commonly recognized that a log above ground will smoulder unnoticed and later break into flames when fanned by a freshening wind, but not so many people who use the woods realize that the same sort of situation may occur out of sight underground. Not infrequently a fire has burned for several days underground and then suddenly flashed through the surface many yards away, a devastating flame.

The reason for this seeming incongruity is that the forest floor in many instances is hardly more than a thick layer of humus--decayed vegetation which when dry holds fire for a long time. A fire should not be built on a layer of this sort.

When your camp fire has died down and you are ready to pass on to other parts, do not leave until the fire is dead or than the proverbial doornail. For a fire is just that crafty that if lingering sparks remain it may blaze to life again the minute you are out of sight. A fire is never out until the last spark is out. -- Elon Jessup.

18. Reading.

THE STORY OF TWO MATCHES

By Robert Louis Stevenson

One day there was a traveler in the woods in California, in the dry season, when the "trades" were blowing strong. He had ridden a long way and he was tired and hungry, and dismounted from his horse to smoke a pipe. But when he felt in his pocket, he found but two matches. He struck the first and it would not light.

"Here is a pretty state of things," said the traveler. "Dying for a smoke, only one match left, and that certain to miss fire! Was there ever a creature so unfortunate? And yet," thought the traveler, "suppose I light this match, and smoke my pipe, and shake out the dottle here in the grass--the grass might catch on fire, for it is dry like tinder; while I snatch out the flames in front, they might evade and run behind me and seize upon yon bush of poison oak; before I could reach it, that would have blazed up. Over the bush I see a pine tree hung with moss; that, too, would fly in fire upon the instant to its topmost bough. And the flame of that long torch--how the trade wind would take and brandish that through the inflammable forest! I hear this dell roar in a moment with the joint voice of wind and fire. I see myself gallop for my soul, and the flying conflagration chase and outflank me through the hills. I see this pleasant forest burn for days, the cattle roasted, the springs dried up, the farmer ruined and his children cast upon the world. What a world hangs upon this moment!"

With that he struck the match, and it missed fire.

"Thank God," said the traveler, and put his pipe in his pocket.

19. Recitation or Song.

MADE OF WOOD
By L. C. Everard
(To be sung to the tune of "America the Beautiful")

The ships hard fought by John Paul Jones,
The rails that Lincoln split;
Brave Freedom's huts at Valley Forge,
 The synonym of grit;
Mount Vernon's halls and columned porch
 Where Washington once stood;
America these mean to us,
 And all were made of wood.

The musket butt the Minute Man
 Pressed hard to sturdy shoulder;
The high stockade of Dan Boone's fort
 That thwarted redskin murder;
The ramrod Molly Pitcher snatched,
 All red with loyal blood;
America these mean to us,
 And all were made of wood.

The staff that held Fort Moultrie's flag,
 By gallant Jasper raised;
Bold Perry's fleet from forest hewed
 That doomed a foe amazed;
The wagon trains that won the West
 And every fear withstood;
America these mean to us,
 And all were made of wood.

The pines that clothe the southern plains,
 The big trees of the West;
The Douglas fir on Cascade slopes,
 The spruce o' the Rockies' crest;
The white pine of New England's hills,
 The hemlocks on Mount Hood;
America these mean to us,
 Pride, beauty, wealth, in wood.

20. Recitation.

A CONTRAST - FORESTRY OR NO FORESTRY
By Overton Price

A fair land, fertile and kindly, * * * impoverished and marred; its forest wasted by fire and destructive methods of lumbering; its streams mere sewers for the soil wash from denuded hillsides; * * * the fertility of its farms so lowered that they offer only the barren hope of a mere existence to those who till the soil; a nation with a great beginning, checked abruptly in its forward movement and its growth by lack of the substance upon which to feed.

Now, the other side: A fair land, made still more fair by thrift; a land whose great strength and power lie not merely in the length of its purse, but in the natural resources which give it real independence; its green forests clothing the mountains, and so cherished that they furnish perpetual reservoirs of wood for men's needs; its streams clear and forest fed, unfailing sources of water for man and crops to drink, and for boats to float upon; a nation great like its beginning, whole and strong-hearted, traveling onward happily through the unnumbered centuries to its goal.

21. Song.

ON FOREST LAND
By L. C. Everard
(To be sung to the tune of "My Maryland")

Great forests grew in days gone by
On forest land, on forest land,
Where now bare sands and black swamps lie
On forest land, on forest land,
For saw and ax in careless hand
Have swept the trees from forest land,
And fire has flung his glowing brand
On forest land, on forest land.

The acres burned, the acres bare,
On forest land, on forest land,
The acres wrecked by lack of care,
On forest land, on forest land,
Now spread their millions, barren, dead,
Where no man works, no game is fed;
And muddy streams their banks o'erspread,
On forest land, on forest land.

Drive out the fire that seeks to spoil
Our forest land, our forest land,
And save the trees and save the soil,
On forest land, on forest land.
We'll cut our logs with careful hand,
Leave seed to grow a later stand,
And plant with trees the idle land--
Make forest land a harvest land.

22. Quotations to be read or recited.

There is a serene and settled majesty in woodland scenery that enters into the soul, and delights and elevates it, and fills it with noble inclinations. As the leaves of trees are said to absorb all noxious qualities of the air and to breathe forth a purer atmosphere, so it seems to me as if they drew from us all sordid and angry passions, and breathed forth peace and philanthropy.

There is something nobly simple and pure in a taste for the cultivation of forest trees. It argues, I think, a sweet and generous nature to have this strong relish for the beauties of vegetation, and this friendship for the hardy and glorious sons of the forest. There is a grandeur of thought connected with this part of rural economy. It is, if I may be allowed the figure, the heroic line of husbandry. It is worthy of liberal, and free-born, and aspiring men. He who plants an oak, looks forward to future ages, and plants for posterity. Nothing can be less selfish than this.

-- Washington Irving.

On my west line is a fringe of forest, through which rushes in spring, trickles in early summer, and dies out entirely in August, the issues of a noble spring from the near hillside. On the eastern edge of this belt of trees stands the monarchial oak, wide-branched on the east toward the open pasture and the free light, but on its western side lean and branchless, from the pressure of neighboring trees. * * *

Under this oak I love to sit and hear all the things which its leaves have to tell. No printed leaves have more treasures of history or of literature to those who know how to listen. But, if clouds kindly shield us from the sun, we love as well to couch down on the grass some thirty yards off, and, amidst the fragrant smell of crushed herbs, to watch the fancies of the trees and clouds. The roguish winds will never be done teasing the leaves, that run away and come back, with nimble playfulness. Now and then a stronger puff dashes up the leaves, showing the downy under-surfaces that flash white all along the up-blown and tremulous forest edge. Now the wind draws back his breath, and all the woods are still. Then some single leaf is tickled, and quivers all alone. I am sure there is no wind. The other leaves about it are still. Where it gets its motion I can not tell, but there it goes fanning itself and restless among its sober fellows. By and by one or two others catch the impulse. The rest hold out a moment, but soon catching the contagious merriment, away goes the whole tree and all its neighbors, the leaves running in ripples all down the forest side. I expect almost to hear them laugh out loud. * * *

Different species of trees move their leaves very differently, so that one may sometimes tell by the motion of shadows on the ground, if he be too indolent to look up, under what kind of tree he is dozing. On the tulip tree (which has the finest name that ever tree had, making the very pronouncing of its name almost like the utterance of a strain of music--*Liriodendron tulipifera*)--on the tulip tree, the aspen, and * * * all native poplars, * * * each (leaf) moves to suit itself. Under the same wind one is trilling up and down, another is whirling, another slowly vibrating right and left, and others still, quieting themselves to sleep, as a mother gently pats her slumbering child; and each one intent upon a motion of its own. Sometimes other trees have single frisky leaves, but usually the oaks, maples, beeches, have community of motion. They are all acting together, or all are alike still.--

Henry Ward Beecher.

The farmer who has a piece of woodland where during the winter months he cuts his firewood and fencing and a few logs for the repair of buildings and implements, and during certain years when prices are high cuts some logs for the neighboring sawmill, but at the same time looks after the piece of woods, cleans it of dead timber and other rubbish, thus keeping out fire and insects, and otherwise makes an effort to keep the land covered with forest--such a man practices forestry. His forest may be small or large, his ways of doing may be simple and imperfect, the trees may not be the best kinds for the particular locality and soil, they may not be as thrifty as they should and could be; but nevertheless here is a man who does not merely destroy the woods nor content himself with cutting down whatever he can sell, but one who cares for the woods as well as uses them one who sows as well as harvests. He is a forester, and his work in the woods is forestry.-- Filibert Roth.

And I wish that for a hundred, nay, for a thousand years to come, I could on each recurring November have such an afternoon ride, with an autumnal glory in the trees. Sometimes, seeing the road before me carpeted with pure yellow, I said to myself, "Now I am coming to elms"; but when the road shone red and russet-gold before me I knew it was overhung by beeches. But the oak is the common tree in this place, and from every high point on the road I saw far before me and on either hand the woods and copses all a tawny yellow gold--the hue of the dying oak leaf. The tall larches were lemon-yellow, and when growing among tall pines produced a singular effect. Best of all was it where beeches grew among the firs, and the low sun on my left hand shining through the wood gave the coloured translucent leaves an unimaginable splendour.-- W. H. Hudson.

Strange as it may seem the American people, bred for many generations to forest life, drawing no small measure of their wealth from the forest, have not yet acquired the sense of timber as a crop. The immense stretches of cutover land, mostly too rough or too sterile for tilling, have not awakened us to their vast potential worth as growers of wood. Fully one-fourth of our land area ought to be kept in forest, not poor dwindling thickets of scrub, but forests of trees fit for bridges and houses and ships. Handled by the best timber-cropping methods, our present forest lands could be made to grow even more timber each year than we now use. But much of our cut-over land, lying idle or half productive, is now an immeasurable loss. It pays little or no taxes, it keeps few hands busy, it turns few wheels, it builds no roads. Idle forest land has scrapped schools, factories, railroads, and towns; it has dotted the land with abandoned farms; it has created a migratory population. * * *

The end of the free timber is in sight. World competition for the world supply will leave no large dependable source of imports open to us. The use of substitutes hardly keeps pace with new uses of wood; there is no likelihood that we can become a woodless nation even if we wanted to. When the free timber is gone we must grow our wood from the soil like any other crop.--

Calvin Coolidge.

23. Conclusion.

The program should conclude with discussion of a practical forestry project to be undertaken by the children. The following are suggested as plans among which each school, club, or scout troop may choose one or more well suited to its opportunities:

1. Plant trees along streets, on school grounds, on eroded lands, or in open spaces in woods.
2. Stage a forest-protection pageant, or a parade in which forest-protection floats or slogans are used.
3. Take "hikes" to study tree identification and the injury done to trees by fire.
4. Print forest-fire prevention signs and place them in wood lots or on camp property.
5. Give demonstrations in the woods or in parks of the proper way to lay a camp fire.
6. Inspect the watersheds of town reservoirs, and look for insanitary camp sites, eroded areas, sparsely grown areas, etc. Also study the trails and roads that are used to protect forests from fire.
7. Give talks before classmates, school assemblies, or clubs on American forests and their use for recreation and timber production.
8. Thin out the undesirable trees and clean out the dead material on their own camp grounds or in the woods of farmers and forest owners.

24. Tree-planting Programs.

A forestry meeting gains immensely in effectiveness if the program includes tree planting. Sentimental appeal and practical purpose are combined when a tree is planted with appropriate ceremony in a spot where it will grow to be beautiful and useful. At such a meeting the main feature is the tree planting. In addition there may be an appropriate address, recitations, and readings. An invocation by a local clergyman will add impressiveness, as will also a charge of responsibility to the custodians of the tree or trees and a tree planter's pledge. Ensemble singing enables all attending to participate in the exercises. For the tree-planting ceremony a suggested method is to have a planting crew of four. A bugle call summons the crew, each with a spade, who enter singly and form a group about the tree. As each member of the crew takes position he recites a verse of "Plant a Tree" (No. 11 in this program) and all four recite the fifth verse in unison. The tree has previously been placed in the hole, which is filled with earth by the crew at the conclusion

of the recitation. The order of the program might be as follows: Invocation, ensemble singing, recitation, tree planting, address, song, reading, ensemble singing.

25.

PLANTING SUGGESTIONS

Trees cannot be thrust into a rough soil at random and expected to flourish. They should be planted in well-worked soil, well enriched. If they can not be set out immediately upon receipt, the first step is to prevent their roots from drying out in the air. This may be done by "heeling in" the trees--that is, burying the roots in fresh earth and packing it enough to exclude the air. Evergreens in particular, which are always transplanted with a base of earth about the roots, are very easily killed by allowing the roots to become dry. Before planting cut off the ends of all broken or mutilated roots; if it is a broadleaf tree, prune the tree to a few main branches and shorten these. Evergreens should not be pruned.

Dig holes at least 3 feet in diameter and 2 foot deep. If the soil is poor, they should be 4 foot in diameter. Make the sides perpendicular and the bottom flat. Break up the soil in the bottom to the depth of the spade blade. Spread on the bottom 12 or 15 inches of good topsoil, from sods or other undecomposed vegetable matter. On the top of this layer spread out the roots of the tree with none of them in a cramped position and cover them with 2 or 3 inches of fine topsoil. Firm the soil about the roots, water lightly, and after the water soaks in fill the hole with good earth, continuing to firm it, but leaving the surface loose and a little higher than the surface of the surrounding soil.

When planted the trees should stand about one inch deeper than they stood in the nursery. They should be planted far enough apart so that at maturity they will not be crowded. This is especially important, for the trees will not grow well unless they have an adequate supply of light and moisture.

26.

CARING FOR THE TREES

Like any other plant, a tree requires light, water, and food. A newly planted tree especially must be tended to see that it does not suffer from lack of water, particularly during hot, rainless periods. Trees along city streets, or close-cropped lawns, etc., must be fed by spading in new soil or rotted manure or other plant foods, and the soil must be kept loose by spading lightly about the trunk before it becomes hard or packed. In such locations it is advisable to protect the tree by a stake and a guard during the first four or five years at least. Systematic care must be taken to see that the young trees do not suffer from lack of water, light and food. Whatever the location, provisions must be made to protect the trees against insect or fungous attacks.

Further information on planting and care of trees, care and improvement of community and farm woods, and other subjects of the kind, may be obtained from the Forestry Departments of the various States or from the Forest Service, U. S. Department of Agriculture, Washington, D. C.

NOTE.-- For the privilege of using certain of the foregoing selections the Forest Service is indebted to the courtesy of the publishers. The numbers under which these selections appear in the program, the names of the publishers, and the titles of the volumes from which the selections were taken, are as follows: 3. Educational Publishing Co. 4. Small, Maynard & Co.: The Land We Live In. 5. George H. Doran Co.: The Dreamers and Other Poems. 11. Houghton Mifflin Co. 12. American Civil Association. 14. Irene Welch Grissom, Idaho Falls, Idaho. 16. G. P. Putnam's Sons: Roughing It Smoothly. 17. Charles Scribner's Sons. 19. Small, Maynard & Co.: The Land We Live In. 21. Ginn & Co.: First Book of Forestry, by Filibert Roth. E. P. Dutton & Co.: Afoot in England, by W. H. Hudson.

